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(also Esserlieu)
Senior Environmental Scientist
Everglades Division
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PROFESSIONAL EXPERIENCE

Sr. Environmental Scientist, South Florida Water Management District Everglades Division, West Palm Beach, Florida (1998-Present).

Lake Okeechobee Watershed PDT, 2006.

Invited panelist for GEER (Greater Everglades Ecosystem Restoration) conference, 2006, 2 panels

Lake Okeechobee Revised Schedule Study PDT member, Everglades Division (2006-present)

RECOVER Greater Everglades Landscape Subteam member (2005-present)

DECOMP Data Mining and Analysis Team member (2005-present)

Lead in developing Ridge and Slough spatial model (2005-present)

Lead in pattern analysis and historic changes of Ridge and Slough landscape (2004-present)

Stormwater Treatment Area Optimization research for Everglades ecosystem restoration, hydrology and water quality (1998-2004).

Conduct analyses on constructed wetlands and Everglades; present oral scientific papers and prepare peer-reviewed scientific papers for journal publication (1999-present).

Project manager for vegetation, soils, and sediment analyses for four constructed stormwater treatment areas (2003) and for biomass and nutrient analysis in a constructed wetland (2002).

Senior author and co-author on annual Everglades Consolidated Reports (2000 to 2004).

Served on committees to identify and approve outside technical consultants for District (2000-present).

Short courses on ArcGIS, SAS for Mixed Models, SAS for Windows, Microsoft Access, defensive driving, aquatic safety, CPR and first aid

Systems Ecologist, Management Assistance Corporation of America, Fort Collins, Colorado (1995-1997).

Post-doctoral research on impacts of climate change on terrestrial ecosystems at the U.S. Forest Service using the Terrestrial Ecosystem Model (TEM); analyzed effects of grid resolution and of species in climate change simulation predictions.

Reviewer for journal *Landscape Ecology*; invited speaker for Forest Sciences Graduate Seminar, Colorado State University.

Research Assistant/Doctoral Candidate, University of Virginia, Department of Environmental Sciences, Charlottesville, Virginia (1989-1995)

Developed process based peatland ecosystems model: roles of biological and geophysical feedbacks in boreal bog microtopography.

Research on climate periodicities in simulations of ecosystem productivity.

Research on processes leading to patterned boreal peatlands.

Teaching Assistant, Soils Science Lab. Research Assistant 1 year. UVA grants 2 years.

NASA research assistant, 3 year grant through Synthetic Aperture Radar program (1990-1993).
UVA miscellaneous research grants, 1989-1990, 1994

Ecological Research, Lawrence Berkeley Laboratory, University of California, Berkeley, California (1988-1989)

Global climate change data assessment. Reviewed and reported federal data available for climate change research.

Technical Writer, Pacific Gas and Electric Company, San Francisco, California (1988).

Management Decision Support System manuals, field manuals for electric load readings

Consultant, Pacific Gas and Electric Company, San Francisco, California (1984-87)

Project research data manager for energy conservation and load management.

Senior Associate, Environmental Science Associates, Inc., San Francisco, California (1984)

Project manager for Environmental Impact Reports on development projects.

Environmental Consultant, Esserlieu Associates, Palo Alto, California (1983-84)

Risk assessment for National Park Service on national parks' potential sensitivity to air pollution; developed original analysis methodology.

Regional (Landscape) Ecologist, Environmental Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee (1979-83)

Project manager for Tennessee-Tombigbee Corridor Study, a regional characterization.

Project manager for site-selection study for high level nuclear waste repository in Southeast.

Coauthor of Geoecology Data Base, national integrated county-level environmental data.

Regional analyses for acid deposition, air pollution, and water quality studies. Part of Regional Ecology (later Landscape Ecology) research and assessment group.

Chaired Graphics Session and joint session on Information Systems/Graphics for the SAS User's Group International Conference, February 1982.

Short courses on project management, supervisory responsibilities, computer graphics.

Supervised support staff and student.

Research Technician, University of Georgia, Savannah River Ecology Laboratory, Aiken, South Carolina (1978-79)

Ecological site studies in seasonal wetlands; collected and managed project data.

Field data collection on herpetofauna and vegetation, mapping responsibilities.

Research Assistant, University of Texas at Dallas, Richardson, Texas (1976-78)

Assessed potential nonpoint source pollution related to land use and land management practices in a north Texas watershed. Developed quick assessment methodology for potential erosion losses from land management practices.

Assistant Demographer, North Central Texas Council of Governments, Arlington, Texas (1975-76)

Produced and developed small-area annual population, housing, migration and age structure estimates.

PROFESSIONAL ACTIVITIES

Coordinator for Everglades Division Brown Bag Science Seminar Series (2004-present)

Invited seminar at McGill University on Everglades Ridge and Slough characterization, Aug. 2005

Technical scientific presentations, 1980-present (numerous; annually or more frequently). Society meetings (ESA, USIALE, AAAS, Water Pollution Control, AIBS, GEER). Internal presentations where employed.

Testimony for wetlands preservation, bi-weekly during 1986-1988, Union City, CA to planning commission and city council. Occasional presentations to other San Francisco planning organizations.

Co-founded chapter of Association for Women in Science at Oak Ridge National Laboratory.

COMMUNITY LEADERSHIP

City of Lake Worth Tree Board (2005-2008)

Palm Beach Monthly Meeting of the Religious Society of Friends: Deep Ecology leader (2004-present), Ministry Committee (2004-2007), Social Concerns Committee (2002-2004)

Troop leader, Girl Scouts of America, 2000-2001.

Rocky Mountain Border Collie Rescue, 1997-1998.

Volunteer in public schools, Fort Collins, CO, and Charlottesville, VA, 1990-1998. Classroom participation, teaching, and fund-raising assistance.

Unitarian Church committee member and teacher, 1991-98.

Citizens Committee to Complete the San Francisco Bay National Wildlife Refuge, Palo Alto, CA. Co-Chair, 1986-1989. Organization responsible for doubling size of S.F. Bay National Wildlife Refuge through legislation and land acquisition. Highly successful organization.

Citizens for Open Space in Alvarado, Union City, CA. Founder and organizer, President 1986-1989. (Local conservation group). Succeeded in adding Alvarado Marsh as Alvarado Unit of S.F. Bay National Wildlife Refuge.

San Francisco Bay Estuary Project, Environmental Protection Agency. Wetlands Subcommittee member; Public Advisory Committee alternate 1987-88.

Santa Clara Valley Audubon Society, Palo Alto, CA. Second Vice-President, 1988-89. Board member, term 1986-89; Environmental Action Committee for 3 years; representative to Bay Area Audubon Council.

PROFESSIONAL HONORS, SOCIETIES AND MEMBERSHIPS

Fellowships and Honors:

Performance Award at SFWMD, 2002

Who's Who of America, 2001; Who's Who Among Young American Professionals, 1992-93;
Who's Who Among American Women, 1989-92

William T. Odom Fellowship, University of Virginia, 1994; DuPont Fellowship, University of Virginia, 1994; NASA Graduate Student Research Fellowship, 1990-1993; Dean's Special Reserve Fellowship, University of Virginia 1989-1990

Member: Ecological Society of America, 2005-present.

EDUCATION

Ph.D. 1997, University of Virginia, Environmental Sciences Department, Ecosystems Ecology.

M.S. 1978, University of Texas at Dallas, Program of Environmental Sciences, Resource Management

B.A. 1975, Austin College, Sherman, Texas, Liberal Arts, Concentration in Human Population Dynamics.

SELECTED PUBLICATIONS

Nungesser, Martha K., Christopher McVoy, Yegang Wu, Naiming Wang. Landscape Patterns of the Everglades Ridge and Slough Peatland. Submitted to Ecological Indicators.

Nungesser, Martha K. and Michael J. Chimney. A hydrologic assessment of the Everglades Nutrient Removal Project, a subtropical constructed wetland in south Florida (USA). Submitted to Ecological Engineering.

Gu, Binhe, Michael J. Chimney, Jana Newman, Martha K. Nungesser. A Limnological Survey of a Subtropical Constructed Wetland in South Florida. Ecological Engineering, in press.

Chimney, Michael J., Martha K. Nungesser, Christy Combs, Binhe Gu, Erin Kellis-Fogarty, Jana M. Newman, Warren Wagner and Lori Wenkert. 2004. Chapter 4B: STA Optimization and advanced treatment technologies. In 2004 Everglades Consolidated Report, South Florida Water Management District, West Palm Beach, FL. Pp. 4B-1 to 4B-30.

Sklar, Fred, Carlos Coronado-Molina, Amy Gras, Ken Rutchey, Dale Gawlik, Gaea Crozier, Laura Bauman, Scot Hagerthy, Robert Shuford, Jennifer Leeds, Yegang Wu, Christopher Madden, Brian Garrett, Martha Nungesser, Michael Korvela and Christopher McVoy. 2004. Chapter 6: Ecological effects of hydrology. In 2004 Everglades Consolidated Report, South Florida Water Management District, West Palm Beach, FL. Pp. 6-1 to 6-58.

- Nungesser, M.K. 2003. Modelling microtopography in boreal peatlands: hummocks and hollows. *Ecological Modelling* 165 (2-3):175-207.
- Jorge, Jennifer, Jana Majer Newman, Michael J. Chimney, Tim Bechtel, Martha K. Nungesser, Larry Fink, Jose Lopez, Binhe Gu, Ron Bearzotti, Drew Campbell, Christy Combs, Kathy Pietro, Nenad Iricanin, and Richard Meeker. 2003. Chapter 4: Stormwater Treatment Areas, performance and compliance, STA optimization and advanced treatment technologies. Consolidated Report 2002. South Florida Water Management District, West Palm Beach, FL. Pp. 4-1 to 4-127.
- Nungesser, M.K. and M.J. Chimney. 2001. Evaluation of phosphorus retention in a southern Florida treatment wetland. *Water Science & Technology* 44 (11/12): 109-115.
- Nungesser, Martha K., Jana Majer Newman, Christy Combs, Tammy Lynch, Michael J. Chimney, and Richard Meeker. 2001. Chapter 6: Optimization research for the Stormwater Treatment Areas. Consolidated Report 2001. South Florida Water Management District, West Palm Beach, FL. Pp. 6-1 to 6-44.
- Nungesser, Martha K. and Michael J. Chimney. 2000. Evaluation of phosphorus retention in a south Florida treatment wetland. Vol. 1, 7th International conference on wetland systems for water pollution control, International Water Association, University of Florida, pp. 179-186.
- Joyce, Linda A. and Martha Nungesser. 2000. Ecosystem productivity and the impact of climate change. Chap. 3 in *The Impact of Climate Change on America's Forests: A Technical Document Supporting the 2000 USDA Forest Service RPA Assessment*. USDA Forest Service Gen. Tech. Rep. RMRS—GTR-59.2000. pp. 45-68.
- Chimney, Michael J., Martha Nungesser, Jana Newman, Kathy Pietro, Guy Germain, Tammy Lynch, Gary Goforth and M. Zaki Moustafa. 1999. Chapter 6: Stormwater Treatment Areas—status of research and monitoring to optimize effectiveness of nutrient removal and annual report on operational compliance. Everglades Consolidated Report 1999. South Florida Water Management District, West Palm Beach, FL. Pp. 6-1 to 6-127.
- Nungesser, Martha K., Linda A. Joyce, and A. David McGuire. 1999. The effect of spatial aggregation on estimates of forest response to climate change. *Climate Research* 11:109-124.
- Nungesser, Martha K. 1998. The importance of plant species in predicting consequences of future climates. White paper, U.S. Forest Service, Ft. Collins, CO.
- Nungesser, Martha K. 1997. Stability and Resilience in Bog Hummock and Hollows. Dissertation, University of Virginia, Charlottesville, VA. 150 pp.
- Yeakley, J.A., R.A. Moen, D.D. Breshears, and M.K. Nungesser. 1994. Response of North American ecosystem models to multi-annual cycles in temperature and precipitation. *Landscape Ecology* 9(4):249-260.
- Ritschard, Ronald L., Walter E. Westman, and Martha K. Nungesser. 1989. What Measurements Exist on the World's Climate and Greenhouse Gases? A Report on Current U.S. Activities in Data

Collection, Storage and Dissemination. U.S. Department of Energy, Washington, D.C. 450 pp. with Appendices.

- Esserlieu, Martha K. and Richard J. Olson. 1986. Biological Vulnerabilities of National Park Service Class I Areas to Atmospheric Pollutants. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 250 pp.
- Bennett, J.P., M.K. Esserlieu, and R.J. Olson. 1985. Ranking Wilderness Areas for Sensitivities and Risks to Air Pollution. U.S. Forest Service.
- Krummel, J.R., M.K. Esserlieu, C.T. Hunsaker, and C.S. Tucker. 1983. Regional characterization of the Southeastern Region. U.S. Department of Energy, Office of Crystalline Repository Development, Columbus, Ohio. 260 pp.
- Nungesser, M.K., C.T. Hunsaker, and R.J. Olson. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; Summary. U.S. Army Corps of Engineers, Nashville, Tennessee. 35 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, C.T. Hunsaker, L.L. Wright, and L.L. Sigal. 1982. Environmental Resources of the Tennessee-Tombigbee Corridor; I. Alabama: Baldwin and Mobile Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 140 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1982. Environmental Resources of the Tennessee-Tombigbee Corridor; II. Alabama: Choctaw, Clark, Marengo, Sumter, and Washington Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 110 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, C.T. Hunsaker, L.L. Wright, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; III. Alabama: Fayette, Greene, Hale, Lamar, and Pickens Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 130 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, C.T. Hunsaker, L.L. Wright, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; IV. Alabama: Bibb, Jefferson, and Tuscaloosa Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 180 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, C.T. Hunsaker, L.L. Wright, and L.L. Sigal. 1982. Environmental Resources of the Tennessee-Tombigbee Corridor; V. Alabama: Colbert, Franklin, Lauderdale, and Marion Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 130 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; VI. Mississippi: Clay, Kemper, Lauderdale, Lowndes, Noxubee, and Oktibbeha Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 140 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1982. Environmental Resources of the Tennessee-Tombigbee Corridor; VII. Mississippi: Alcorn, Chickasaw, Itawamba, Lee, Monroe, Pontotoc, Prentiss, and Tishomingo Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 150 pp.

- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; VIII. Tennessee: Decatur, Hardin, McNairy, Perry, and Wayne Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 130 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; IX. Tennessee: Benson, Henry, Houston, Humphreys, and Stewart Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 130 pp.
- Nungesser, M.K., J. Switek, C.S. Tucker, M. Frank, L.L. Wright, C.T. Hunsaker, and L.L. Sigal. 1983. Environmental Resources of the Tennessee-Tombigbee Corridor; X. Kentucky: Caldwell, Calloway, Christian, Livingston, Lyon, Marshall, McCracken, and Trigg Counties. U.S. Army Corps of Engineers, Nashville, Tennessee. 130 pp.
- Smith, E.D., M.K. Nungesser, and J.W. Webb. 1982. Geologic Isolation of High-level Radioactive Waste: Review of Recent Developments and Potential Environmental Issues. Report to DOE Office of Environmental Compliance, Washington, D.C. 250 pp.
- Nungesser, M.K., G.E. Taylor, and R.J. Olson. 1980. Regional impacts of air pollution on vegetation. Bulletin of the Ecological Society of America, Program Issue 61(2):66 (abstract).
- Olson, R.J., C.J. Emerson, and M.K. Nungesser. 1980. Geoecology: A County-level Environmental Data Base for the Conterminous United States. ORNL/TM-7351. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 400 pp.
- Savannah River Ecology Laboratory. 1979. Ecological Inventory for the Proposed AFR Site, Final Report. Savannah River Ecology Laboratory, University of Georgia, Aiken, South Carolina.
- Cargo, D.B., and M.K. Nungesser. 1977. Land use in the Lake Ray Hubbard Watershed. City of Dallas Water Utilities, North Central Texas Council of Governments, Arlington, Texas (contributing authors).

In preparation:

- Nungesser, Martha K. Changes in Phosphorus Removal in a Florida Stormwater Treatment Marsh: An Ecosystem Approach. To be submitted to Ecological Applications.
- Nungesser, Martha K. and Philip Dixon. Can Everglades Stormwater Treatment Areas be managed to improve outflow phosphorus concentration? To be submitted to Wetlands.
- Nungesser, Martha K. The role of plant species in predicting consequences of future climates. To be submitted to Climate Research.

